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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/604,888	08/25/2003	Tadashi Ichida	SIC-03-029	1887

29863 7590 08/30/2005

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EXAMINER

WHITTINGTON, KENNETH

ART UNIT PAPER NUMBER

2862

DATE MAILED: 08/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/604,888	Applicant(s) ICHIDA ET AL.	
	Examiner Kenneth J. Whittington	Art Unit 2862	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 26 July 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 16-22 is/are rejected.
- 7) ☒ Claim(s) 11-15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 July 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.



**Bot Ledynh**  
Primary Examiner

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

The Amendment filed July 26, 2005 has been entered and considered. In view thereof, the objections to the drawings have been withdrawn.

6

***Claim Objections***

Claim 22 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

12 Claim 22 attempts to further limit the bicycle part as recited in claim 21, wherein the bicycle part is either a front fork, back fork or chainstay. Since a wheel hub is not a further limitation of any of these features, the claim introduces a broader recitation of the bicycle part. For purposes of examination, this claim will be interpreted to depend from claim  
18 20.

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

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Claims 1-10 and 16-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuda (US 6,162,140) in view of Uyeda et al. (US 4,521,731). Regarding claims 1, 2, 10, 20 and 21, Fukuda teaches a speed sensor assembly comprising:

a casing member comprising a generally annular body  
6 structured to be mounted to the bicycle hub so that the annular body is incapable of rotating relative to the hub as the hub rotates in opposite directions around a rotational axis (See Fukuda FIGS. 7 and 8, item 300), wherein the annular body includes a plurality of circumferentially disposed exposed magnet mounting portions that are concentric with respect to the  
12 rotational axis and containing a plurality of magnets (See FIGS. 7 and 8, magnets 304 and recesses therefor), and

a sensor unit mounted to the chainstay and/or back fork of the bicycle (See FIGS. 7 and 8, item 308),

the casing further comprising:

an inner peripheral surface to fit around an outer  
18 peripheral surface of the mounting boss (See FIG. 7, note the annular body 300 has an inner surface that engages the outer surface of the hub); and

a surface that extends radially inwardly relative to the inner peripheral surface to face an axially extending facing surface of the mounting boss (See FIG. 8, note that an inner

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portion of the stopper 368 has a surface extending inwardly of the inner peripheral surface and this surface faces an axially facing outer rim surface of the hub).

However, Fukuda does not explicitly teach a cover member. Uyeda et al. teaches a cover member detachably latched to the  
6 annular body for blocking the plurality of magnet mounting portions (See Uyeda et al. FIGS. 2 and 6, item 1a mounted onto 1b). It would have been obvious at the time the invention was made to incorporate the cover assembly as taught by Uyeda et al. in the sensor assembly of Fukuda. One having ordinary skill in the art would have been motivated to do so to protect the  
12 magnets from the environment. One would also be motivated to do so to prevent the magnets from being dislodged from the annular member (See Caillaut et al., US 5,530,344, at col. 4, lines 25-31).

Regarding claim 3, Uyeda et al. teaches the cover rotating with the annular member (See Uyeda et al. FIGS. 5 and 7, note  
18 that screw prevents relative rotation).

Regarding claims 4 and 5, while Fukuda does not teach of the material from which the casing is made, Uyeda et al. teaches of using a non-magnetic synthetic resin for an annular member and cover (See Uyeda et al. col. 1, lines 55-58). It would have been obvious to use such materials in the combination noted

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above. One having ordinary skill in the art would have been motivated to do so to prevent the casing from interfering with the magnetic readings of the sensor and to provide an assembly easy constructed via a molding process (See Uyeda et al. same portion).

6           Regarding claim 6, Uyeda et al. teaches the cover completely covering the magnets (See Uyeda et al. FIG. 6).

          Regarding claims 7-9, Fukuda teaches the annular body securely bolted to the hub so that relative movement is prevented (See FIGS. 7 and 8, note teeth and grooves in hub portion 340 cooperating with the annular body preventing  
12 relative rotation and stopper 368 bolting thereto).

          Regarding claims 16-19, Fukuda teaches a stopper member fixing the annular body to the hub, wherein the stopper member has a tubular portion fitting radially inwardly of the annular body and a flange portion that axially maintains the annular body and latching portions (threads) structured to fit within  
18 stopper grooves (threads) in the hub (See Fukuda FIGS. 7 and 8, note item 368 can be interpreted as this stopper).

          Regarding claim 22, while Fukuda does not explicitly teach mounting the sensor directly on the hub, Uyeda et al. specifically teach such features (See Uyeda et al. FIG. 2, sensor 5). It would have been obvious at the time the invention

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was made to mount the sensor to the hub. One having ordinary skill in the art would have been motivated to do so because such mounting locations are illustrated alternative methods for arranging the sensor near the annular body for measurements.

Furthermore, the mounting arrangement of Uyeda et al. allows the  
6 sensor to interchangeably be fitted to various wheels (See Uyeda et al. col. 2, lines 52-65).

***Allowable Subject Matter***

Claims 11-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in  
12 independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 11-13, the prior art does not show or fairly teach the apparatus having the features recited in claim  
18 1 mounted directly onto a crank arm.

Regarding claims 14 and 15, the claims have allowable subject matter for the same reasons outlined in the Office Action of April 28, 2005.

***Response to Arguments***

Applicant's arguments filed with the Amendment filed July 26, 2005 have been fully considered and they are persuasive in part. In view thereof the rejections applying the Davidson et al. (US 4,122,907) and the 112 rejection over claim 22 are  
6 withdrawn. Regarding the remaining rejections, the only argument for patentability asserted by Applicant is that Fukuda in view of Uyeda et al. does not teach the newly added features to the claims, namely an inner peripheral surface of the casing member and an inwardly extending surface thereon.

It is noted that the claims require a casing member  
12 comprising "a separate generally annular body; and, a cover member...; wherein the casing member further comprises an inner peripheral surface...; and a surface..." As shown in Fukuda in FIG. 7, the casing member can comprise the annular body 300 and a lock ring (or stopper) 368. The annular member 300 has an inner peripheral surface to fit around the bicycle part. The stopper  
18 368 has a surface extending from the inner peripheral surface of the annular member 300 that faces a portion of an axially facing outer rim portion of the hub. Accordingly, Fukuda in view of Uyeda et al. teaches the newly added features in combination with the other features of the claims.

**Conclusion**

Applicant's amendment necessitated the new/amended grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

6 CFR 1.136(a).

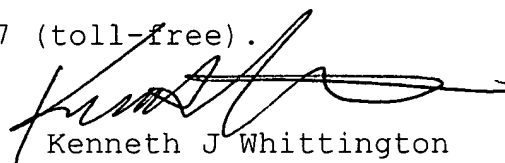
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened  
12 statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

18 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth J. Whittington whose telephone number is (571) 272-2264. The examiner can normally be reached on Monday-Friday, 7:30am-4:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on (571) 272-2180. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

6 Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, 12 see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Kenneth J Whittington  
Examiner  
Art Unit 2862

kjw